

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

| | | |
|---|--|---|
| Applicant's or agent's file reference UMD-0067 | FOR FURTHER ACTION <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small> | |
| International application No. PCT/US04/24351 | International filing date (<i>day/month/year</i>) 29 July 2004 (29.07.2004) | (Earliest) Priority Date (<i>day/month/year</i>) 30 July 2003 (30.07.2003) |
| Applicant UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box No. II)

3. ☐ Unity of invention is lacking (See Box No. III)

4. With regard to the title,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the abstract,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. ____



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

- b. ☒

none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/24351

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 33/48

US CL : 702/19

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 702/19; 211/41.12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 2002/0169560 A1 (HYTOPOULOS et al.) 14 November 2002 (14.11.2002), see especially Detailed Description | 1, 3, 5, 7 |
| --- | | |
| Y | | 2, 4, 6, 8 |
| Y | US 2002/0178150 A1 (HYTOPOULOS et al.) 28 November 2002 (28.11.2002), see especially Detailed Description. | 1-8 |
| Y | US 6,496,834 B1 (CEREHINI et al.) 17 December 2002 (17.12.2002), see especially Detailed Description of the Preferred Embodiment. | 1-8 |
| ✓ Y | YEUNG et al. Model-based clustering and data transformations for gene expression data. Bioinformatics. 2001, Volume 17, Number 10, pages 977-987, see especially Model-Based Cluster Approach. | 1-8 |
| Y | MURO et al. Identification of expressed genes linked to malignancy of human colorectal carcinoma by parametric clustering of quantitative expression data. Genome Biology. 2003, Volume 4, R21, pages R21-R21.10, especially Results. | 1-8 |



Further documents are listed in the continuation of Box C.



See patent family annex.

| | |
|---|--|
| * Special categories of cited documents: | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "E" earlier application or patent published on or after the international filing date | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" document member of the same patent family |
| "O" document referring to an oral disclosure, use, exhibition or other means | |
| "P" document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search

03 February 2005 (03.02.2005)

Date of mailing of the international search report

16 MAR 2005

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/US04/24351**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| Y, P | OUYANG et al. Gaussian mixture clustering and imputation of microarray data. Bioinformatics. 2004, Volume 20, Number 6, pages 917-923, see especially Methods and Data. | 1-8 |

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/24351

Continuation of B. FIELDS SEARCHED Item 3:

WEST, PUBMED, EMBASE, BIOSIS, SCISEARCH searching terms: missing, value, microarray, cluster, Gaussian, GMCimpute, algorithm, estimate, partition, classification, maximize, converge, computer, method, program, software